

INDEX to "RADIO"

for the Year 1939

Issues 235 to 244, Inclusive

Amateur Newcomer

- Antennas for Beginners July, 56
Low-Cost c.w. Rig June, 59
112 Mc. Transceiver Mar., 59
Percentage Modulation Meter—
Higgy Dec., 60
Receiver—Transmitter—*Broderson* .. May, 61
2½ Meter Transmitter.... Apr., 57; May, 74

Antennas, Feeders and Masts

(see also *Ultra-High Frequencies*)

- Analyzing Antenna Performance—
Taylor Dec., 40
Angle of Radiation—*Conklin* Feb., 45
Bearings and Gears Apr., 64
Beginners' Antennas July, 56
Broad-Band Doublet—*Black* Nov., 39
Characteristics of Closely Spaced
Antennas—*Kraus* Feb., 9
Compact-H Beam — *Kraus* and
Taylor Oct., 43
Compact 3-element Rotary—
Weagant July, 34
Direction Finder Loop Jan., 107
Effective Rotary—*W6NKF* Feb., 19
Feeder Anchoring System—*Dotson* . Mar., 85
Feeder Developments—*Conklin* Nov., 46
4-Element Rotary—*Bassett* May, 41
Halyard Replacement Apr., 77
Hang it all—*Ledin* July, 46
Iron Antenna Wire—*Smith* Nov., 25
Lazy-H Improved—*Smith* July, 23
Mast Construction—*Hoppe* Nov., 40
Multi-wire Antennas—*Kraus* June, 21
Multi-wire Doublets—*Kraus* May, 24
Novel Direction Indicator—*Reed* ... Jan., 83
Plywood Tower—*Koopman* May, 21
Quadridirectional Rhombic—*Evans* .. Apr., 38
Revolving the Rotary—*Wooten* June, 47
Rotary Beam Photo—*W3CHO* Jan., 111
Rotary Suggestions—*Bolen* May, 50

- Rotolink Feed—*Smith*.... Oct., 43; Nov., 89
Square Corner Reflector—*Kraus*.... Mar., 19
Supporting the Rotary—*Moore*.... Mar., 11
3-Element Dimension Chart.... Mar., 68-69
3-Element Rotary—*Conklin* Jan., 35
3- vs. 2-Element May, 74
Twin-Three Flat-Top Beam—*Kraus*. Nov., 11

Book Reviews and Catalogs

- Aeronautic Radio—*Eddy* June, 68
Amateur Radio Handbook—*R.S.G.B.* . Feb., 73
Amplifier Catalog—*Thordarson* July, 60
Applied Acoustics—*Olson and Massa*.July, 60
Broadcast Transformers — *Thordar-
son* July, 60
Catalog—*Aerovox* Nov., 67; Dec., 67
Catalog—*Allied* June, 68
Catalog—*Bliley* Dec., 67
Catalog—*Cornell-Dubilier* Feb., 86; Dec., 67
Catalog—*Sears* Dec., 67
Catalog—*Ward* Dec., 67
Catalog—*Wholesale* Mar., 71
Cathode Modulation—*Jones* Dec., 67
Condensers for Television—*Solar*... July, 60
Dictionary of Radio—*Spayberry*.... June, 68
Electrolytic Capacitors — *Cornell-
Dubilier* Jan., 156
Essentials of Recording—*Allied* July, 60
Fundamental Electronics—*Albert*.... Feb., 86
Handbook of Chemistry and Physics.Oct., 72
1940 Encyclopedia—*Mallory* Nov., 67
Parts Catalog—*Hammarlund* May, 72
RADIO Handbook Nov., 67; Jan., 156
Radio Amateur's Handbook—
A.R.R.L. Jan., 158
Radio Manual—*Sterling* Feb., 73
Radio Master Encyclopedia—*United*. June, 68
Receiving Tube Chart—*RCA*..... May, 72
Replacement Guide—*Stancor*..... June, 68
Transformer Catalog—*Thordarson*.. May, 72
Transformer Encyclopedia — *Thor-
darson* June, 84

Tube Manual—*Taylor* Mar., 71
 Vibrators—*Mallory-Yaxley* July, 60

Calls Heard

Jan., 158; Mar., 71; May, 86; July, 83

Conventions and Hamfests

Alberta Hamfest July, 75
 Asheville Hamfest July, 87
 Atlanta Hamfest Oct., 68
 Boston Hamfest Oct., 68
 Delaware Valley Hamfest July, 75
 Fresno Hamfest May, 23
 New Jersey Hamfest Apr., 96
 Rochester, N. Y. Feb., 68
 Waterloo, Wisc., Hamfest July, 59

Contests

(see DX)

DX

Reviving L.F. DX—*Conklin* Feb., 45
 Countries of the World and Prefixes Jan., 136
 DX—*Becker* Jan., 125; Feb., 61; Mar., 53;
 Apr., 51; May, 55; June, 53; July, 49;
 Oct., 57; Nov., 53; Dec., 55
 Great Circle Globe—*Woodley* Jan., 81
 RADIO DX Contest Oct., 48
 VK-ZL Contest Results July, 59
 WAZ Honor Roll (see Becker's DX
 Department)

Emergency and Relief Work

QRR Net June, 97

Expeditions

Amateur Interest in U. S. Equatorial Islands Jan., 89
 Radio in the Andes Jan., 86

Federal Communications Commission

Amateur Convictions May, 70
 More Convictions July, 86; Dec., 66
 Mystery Control Jan., 108
 New Amateur Regulations Jan., 105
 Revised Amateur Regulations Jan., 87
 Rulings Apr., 87
 War Warning Nov., 78
 Warning to Hams Afloat Oct., 68
 Warning to Purchasers June, 32

Fiction and Verse

Brass Widow—*Smith* Feb., 67
 Company—*Knowlton* Dec., 72
 Day Off—*Mrs. W6CME* May, 88
 Death of a Widow—*Hill* Nov., 68
 F.B., O.M.! Jan., 57

Gone, Alas!—*Benedict* Jan., 109
 Gymnotidae-Push — *Johnson and Mills* July, 68
 Man Bites Snake—*Young* Oct., 70
 Ode to Phone Ham—*VE3ALG* May, 97
 Oil is Well—*Stafford* Jan., 143
 QTE?—*Coe* Mar., 67
 Saga of O.T.—*Trimble* Feb., 92
 Scratchi Jan., 154; Feb., 74; Mar., 73;
 Apr., 66; May, 72; June, 66; July, 60;
 Oct., 72; Nov., 73
 Signal Searching—*W1LSN* May, 69
 63 Mc.—*Tibbets* May, 71
 Tribute to a Transmitter Apr., 65
 Y.L. Trouble—*Weller* June, 70

Five Meters

(see Ultra-High Frequencies)

Hams Across the Sea

AC4YN—*Becker* Mar., 33
 HS1BJ Jan., 33
 Meet Your DX in Person—
 Conklin Nov., 29; Dec., 44
 OQ5AE—*Conklin* July, 88
 VU2AU/G4BL—*Towell* Nov., 44

Hints

Anti-Jitterer—*G2IS* Feb., 88
 Neon Bulbs Without Resistor May, 23
 Scotch Tape Labels—*W8PH* May, 95
 Wire Bending Tool—*Dickey* July, 82

Meters and Measurements

Cathode Ray Screens Dec., 67
 Flasher-Type Modulation Indicator—
 Harrell Feb., 57
 Frequency Measurement at U.H.F.—
 Hayes Dec., 35
 Frequency Spotter—*Dawley* May, 26
 Frequency Standard—*Turner* July, 16
 How Many Turns?—*Franklin* Jan., 50
 Ionospheric Soundings—
 Friend Jan., 99; Mar., 69
 Monitor-Frequency Meter—
 Broderson Nov., 58
 Monitor-Frequency-Meter—*Kime* Apr., 35
 Multimeter Measurements—
 Silverman Mar., 24; May, 70
 Multi-Metering—*Willes* July, 37
 Percentage Modulation Meter—
 Higgy Dec., 60
 Precision Frequency Monitor—
 Browning and Gaffney Oct., 44
 Pulsing Amateur Transmitters for
 Ionosphere Soundings—*Friend* Feb., 28
 Reactance-Frequency Chart—*Pickett* Jan., 90

- Receiving Pulses from the Ionosphere—Friend Apr. 24; June, 90
 Simplified Rig Checker—Barker Oct., 53

Miscellaneous

- British Situation Dec., 66
 Carrier Current Radio—Hall July, 76
 Carrier-Operated Remote Control—
 Waller Nov., 36
 Code of Conduct — Washington
 Radio Club Dec., 70
 Contributions to *RADIO* Jan., 94
 Danger—High Voltage Jan., 82
 400-Watt Diathermy Jan., 59
 Foreign QSL's Mar., 78
 Great Circle Globe—Woodley Jan., 81
 How Many Turns?—Franklin Jan., 50
 Increasing Your Copying Speed—
 Reed May, 37
 Inexpensive d.c. Relays—Grening Dec., 42
 Just a Decade Ago May, 80
 Meet Your DX in Person—Conklin
 Nov., 29; Dec., 44
 Memorizing the Code—Ledin Jan., 85
 Memorizing the Color Code — Mor-
 rison Jan., 84
 Model Airplane Radio Control—
 Rockwood Oct., 19
 "Q"—Burgess May, 31
 Radio as a Profession—Leutz June, 25
 Radio with the Airlines—Durkovic
 Jan., 64; Mar., 36
 Resurrecting the d.c. Relay—Burnett May, 52
 Six Hundred Volts—Crowley Nov., 48
 Television in San Francisco July, 28
 Voice of the DC-4—Owens Oct., 11
 War and Amateur Radio Oct., 68
 W9XTA Ham Forum July, 59
 W6XEJ and the Contender—Becker Oct., 28
 You're in the Movies Now—Kearney
 and Johnson May, 34

Mobile

(see *Radiotelephony, Receiving, Transmitting, U. H. F.*)

New Apparatus

- Amateur Transmitter—Hallicrafters Jan., 150
 Auto Attachment—Katalite Apr., 67
 Bandswitch—Heintz & Kaufman July, 72
 Bridge—Aerovox Jan., 152
 Bud Items Apr., 67
 Code Records—Ralston Jan., 152
 Coil Repair Service—Meissner Apr., 93
 Coil Turrets—B & W Oct., 75
 Coils—Bud May, 81; Oct., 74
 Compensated Velocity Mike—Am-
 perite Jan., 150

- Constant Velocity Tone Record—
 Universal May, 82
 Converter Kit—Wholesale May, 73
 Crystal Mike—Turner Nov., 61
 Dynamic Mike—American May, 81
 Dynamic Mike—Turner Dec., 68
 Exciter Tuning Unit—Hammarlund June, 67
 5-10—Hallicrafters Mar., 72
 Frequency Meter-Monitor — Guther-
 man Apr., 67
 Frequency Standard—Browning Dec., 68
 Heat Radiating Connectors—Wunderlich July, 74
 Heterofil—Millen Nov., 61
 HT-7 Frequency Standard—Hallicrafters Oct., 74
 Low-loss Mica Condensers—Aero-
 vox Dec., 68
 Lucite—DuPont May, 82
 Midget Transformer—Thordarson June, 67
 Mobile Mike —Universal Dec., 68
 Multi-Range Wave Trap—RCA June, 67
 Multi-Ratio Transformers—Stancor June, 67
 Oscillator Standard—Browning Oct., 74
 Permeability Tuner—Aladdin July, 72
 Receiver—Breiting Oct., 76
 R. F. Relay—Gordon Mar., 72
 Skyrider "Defiant"—Hallicrafters Dec., 68
 Skyrider 23—Hallicrafters May, 73
 3-Way Mike—RCA June, 67
 Tinytran—Stancor Oct., 76
 Transformers—Thordarson Apr., 67
 Transmitter—Hallicrafters Jan., 150
 Transmitter Kit—Stancor Jan., 150
 20-Meter Crystal—Monitor July, 74
 20-watt Amplifier—Thordarson July, 72
 U.H.F. Condenser—Cardwell July, 73
 Velocity Mike—Universal Nov., 61
 Vibrapacks—Mallory July, 72
 XEC Unit—Radio-Television July, 74

Open Forum

- Auto Licenses—W8SS Mar., 74
 Canada in Wartime—VE4VH Dec., 70
 Center-tapped Filaments—W8LNS July, 61
 Chair Warmers—ex W7TG Jan., 162
 Engineers?—Brown Mar., 74
 40 Meter B.C.—W6PRM June, 66
 40 Meter B.C.—VK2NO June, 86
 Hanging Beam—Sokolovsky Nov., 80
 January Index—Hall July, 80
 Lids—W3GHB Feb., 87
 Phone Break-in—Blain Apr., 66
 Portable Hint—W8GDC Nov., 80
 Redistributing QSL's—W3AZT May, 74
 75 M. Phone DX—ZL1KN June, 86
 73 License Plate—W6UC July, 61
 South American Phones—W8PBF Jan., 162
 Superhet Trouble—W7CVQ Jan., 162
 29-30 Mc.—Harris Feb., 74

Portable

(see *Radiotelephony, Receiving, Transmitting, U.H.F.*)

Postscripts

Jan., 160; Mar., 69; Apr., 64; May, 70; July, 59; Oct., 68; Dec., 66

Question Box

Mar., 73; May, 74

Radioddities

Radioddities are scattered throughout all issues

Radiotelephony

(see also *Transmitting, U.H.F., and Meters and Measurements*)

- A.C.-D.C. Amplifier—*Turner* Feb., 20
 Applying the 811 and 812 Nov., 18
 Aural Compensation—*Hall* Dec., 51
 Automatic Modulation Control Bias
 —*Jones* June, 26
 Cathode Modulation—*Jones* Oct., 14
 Cathode Modulation Operating Data Dec., 16
 Control System for c.w. or Phone Dec., 52
 Duo-Power Modulator—*Reed* Dec., 19
 Extended Positive Peak Modulation
 —*Smith and Dawley* Dec., 11
 Flasher-Type Modulation Indicator—
 Harrell Feb., 57
 Grid Modulated Phone—*Goode* Mar., 45
 Inexpensive 25-Watt Modulator —
 Dawley Jan., 72
 Modern Speech Amplifier Design —
 Fortune Jan., 46
 100-Watt Phone—*Jones* Jan., 38; Mar., 69
 Optimum Speech Characteristics July, 44
 Parasite Elimination—*Boyd* June, 38
 Phone Break-in—*Williams* July, 40
 Reducing Splatter in Phone Trans-
 mitters—*Dawley* Dec., 33
 Series Cathode Modulation—*Dawley* Dec., 24
 250-Watt Transmitter—*Wolfe* Feb., 48

Receiving

(see also *Ultra-High Frequencies*)

- Amplifier—*Patterson* Feb., 38
 Aural Compensation—*Hall* Dec., 51
 Band-Box—*Broderson* May, 61
 Bandpass Phone Superhet—*Adams* June, 41
 C.W. Super for DX—*Norton* Jan., 11
 Communications Receivers for 1939 Jan., 29
 Converter Design — *Dawley* and
 Norton May, 9
 Direction Finder Loop Jan., 107
 Gain in R.F. Stages—*Conklin* Mar., 43

Improved U.H.F. Receivers—Reber

- and *Conklin* Jan., 17
 Inexpensive DX—*Milles* Jan., 26
 Mobile Hints—*Adams* Apr., 41
 R-C Superhet—*Jones* Mar., 15
 Receiver Kit—*Silver* May, 46
 Ten Meter Auto-Radio Converter—
 Gonset Jan., 52; Feb., 68; Apr., 64
 Tuning Indicator for Plate Detectors
 Vogel Mar., 44

Ten Meters

(see *Ultra-High Frequencies*)

Transmitting

(see also *Radiotelephony, Tubes, and Ultra-High Frequency*)

- Applying the 811 and 812 Nov., 18
 Automatic Excitation Control—*John-
 son* Apr., 48
 Auto-Resonator Transmitter — *Eitel*
 and *McCullough* June, 9; July, 75
 Band-Box—*Broderson* May, 61
 Choosing the Swinging Choke—*Mor-
 gan* Dec., 39
 Class-C Grid Excitation—*Jones* Nov., 15
 Compact Coil Switching—*Moran* Nov., 26
 813 Bandswitching Transmitter —
 Norton Apr., 9
 Electron Coupled Exciter—*Norton* July, 11
 Filament Tubes in Mobile Trans-
 mitter—*Dawley* July, 29
 5-Band Coil-Switching Exciter —
 Jones May, 38
 56 Mc. Transmitter-Exciter—*Roth-
 man* Jan., 23
 400-Watt Transmitter—*Davis* June, 28
 4-25 DeLuxe—*W8DLR* July, 43
 High Efficiency Doubling—*Jones* Apr., 13
 Inductive-Tuned 75T Amplifier July, 33
 Kilowatt on the New 810's Jan., 62
 Low-Cost c.w. Rig June, 59
 Mobile Hints—*Adams* Apr., 41
 Multi-Metering—*Milles* July, 37
 On the Care and Feeding of 807's—
 Smith Jan., 75
 100 Watts per Cubic Foot—*Ryder* Feb., 23
 100 Watts with Bandswitching—
 Shuart May, 17
 160 M. Variable Frequency Exciter—
 Smith Dec., 29
 Parasite Elimination—*Boyd* Jun., 38
 Parasitic Elimination—*Jennings* Mar., 49
 Pidgee Transmitter—*Woehr* Dec., 36
 Portable All - Band Transmitter—
 Reed Apr., 17
 Push Button Control—*Sheffield* Feb., 35
 Conquering the Q—*Burgess* May, 31

- Rebuilding Collins for 28 Mc.—
Boyd Apr., 30
 Remote Control Switching—*Gleed* Feb., 42
 Remote Control Tuning—*Carroll* June, 48
 Screen Voltage on Tetrodes Feb., 41
 Semi-Skeleton Amplifier—*Van Arsdale and Moran* Mar., 40
 Short-Circuited Turns—*Selvidge* Oct., 51
 Simplicity at 56 Mc.—*South* Apr., 46
 Stabilizing the E.C.O.—*Berry* Nov., 50
 Switching Crystals Jan., 56
 Touch to Transmit—*Williams* Nov., 49
 250-Watt Transmitter—*Wolfe* Feb., 48
 Two Watts on the Hoof—*Boyd* Jan., 77
 XEC Transmitter Control—*Perrine* June, 14

Tubes

- 811 and 812 Nov., 18
 810's for a Kilowatt Jan., 62
 828 Nov., 90
 G.OK; an Ideal Tube—*Stafford* Jan., 43
 GT-type Tubes May, 73; July, 72
 HK24 Jan., 97
 957, 958, 959 Acorns—*RCA* Mar., 72
 1620, 1621, 1622, T9 Glass Apr., 93
 R. F. Gain—*Conklin* Mar., 43
 75T Amplifier July, 33
 T9 Glass Tubes May, 73

Ultra-High Frequencies

(see also *Antennas, Radiotelephony, Receiving, Transmitting, Tubes*)

- British 56 Mc. Tests July, 59
 British Summer 28 Mc. Tests July, 59
 Converter Design—*Dawley and Norton* May, 9
 1852 Converter—*Conklin and Ruebhausen* July, 26
 56 Mc—*Conklin* (see U.H.F. Department)
 56 Mc. DX Field Day May, 70

- 56 Mc. Transmitter-Exciter — *Rothman* Jan., 23
 Frequency Measurement—*Hayes* Dec., 35
 Gain in R.F. Stages—*Conklin* Mar., 43
 Improved U.H.F. Receiver—*Reber and Conklin* Jan., 17
 Mobile Transmitter with Filament Tubes—*Dawley* July, 29
 Mobile Tuning Hint—*W6DJZ* Mar., 36
 112 Mc.—*Conklin* (see U.H.F. Department)
 112 Mc. Transceiver Mar., 59
 Portable Mobile Equipment—*Gonset* Mar., 37
 R-C Superhet—*Jones* Mar., 15
 R. F. Stages—*Conklin* Nov., 22
 Rotary Vertical W8JK—*Ledin* July, 46
 Square Corner Reflector—*Kraus* Mar., 19
 Taking 10 for a Ride—*Gonset* Feb., 54
 Transcontinental 56 Mc. DX Again—*Conklin* Oct., 38
 Transmission Lines as Circuit Elements—*Conklin* Apr., 43; May, 43;
 June, 33
 Transmitter Simplicity at 56 Mc.—*South* Apr., 46
 28 Mc.—*Conklin* (see U.H.F. Department)
 28 Mc. in Great Britain—*Corry* Jan., 132
 2½ Meter Transmitter Apr., 57; May, 74
 200 Crystal Watts on 56 Mc. Jan., 97
 250-Watt Phone—*Wolfe* Feb., 48
 224 Mc.—*Conklin* (see U.H.F. Department)

- Ultra-Sensitive Receiver — *Avery and Conklin* June, 33
 U.H.F. Department — *Conklin* Jan., 139, 160; Feb., 68, 72; Mar., 64, 90; Apr., 60; May, 66, 90, 95; June, 63, 91; July, 62, 66; Oct., 38, 64; Nov., 62; Dec., 62.

Yarn of the Month

(see *Fiction*)

The Marketplace

Classified Advertising

(a) Commercial rate 10c per word, cash with order; minimum, \$1.00. Capitals: 13c per word. For consecutive advertising, 15% discount for 3d, 4th, and 5th insertions; 25% thereafter. Break in continuity restores full rate. Copy may be changed as often as desired.

(b) Non-commercial rate: 5c per word, cash with order; minimum, 50c. Available only to licensed amateurs not trading for profit; our judgment as to character of advertisement must be accepted as final.

(c) Closing date (for classified forms only): 25th of month; e.g., forms for March issue, published in February, close January 25th.

(d) No display permitted except capitals.
(e) Used, reclaimed, defective, surplus, and like material must be so described.

(f) Ads not relating to radio or radiomen are acceptable but will be grouped separately.

(g) No commissions nor further discounts allowed. No proofs, free copies, nor reprints sent.

(h) Send all Marketplace ads direct to Santa Barbara accompanied by remittance in full payable to the order of Radio, Ltd.

PRACTICAL Radio and Communication Engineering Course for Home Study offered by Smith Practical Radio Institute, Department R10, 1311 Terminal Tower, Cleveland, Ohio. Information Booklet Free.

TRANSMITTING TUBES REPAIRED Save 60%. Guaranteed work. KNORR LABORATORIES, 5344 Mission St., San Francisco, Cal.

QSL's—Samples. Brownie, W3CJI, 523 North Tenth Street, Allentown, Pennsylvania.

AC Generators and plants. Have some good buys in used machines. Ideal for emergency. Katolight, Inc., Mankato, Minnesota.

CRYSTALS Commercial-Amateur. Literature upon request. ANgelus 7310. C-W Manufacturing Co., 1170 Esperanza, Los Angeles, California.

MOBILE transmitter cabinets. Any size. See article in this issue on Police Radio. Cabinets, Racks, Panels, Chassis, Specials. R. H. Lynch, 970 Camulos, Los Angeles, Calif.

QSL's—Quality Workmanship. Neatest designs! Fritz—455 Mason, Joliet, Illinois.

CRYSTALS in plug-in heat dissipating holders. Guaranteed good oscillators. 160M—80M \$1.25. (No Y Cuts) 40X \$1.65. 80M Vari-frequency (5 Kilocycle variance) complete \$2.95. State frequency desired. C.O.D.'s accepted. Pacific Crystals, 1042 South Hicks, Los Angeles, Calif.

METERS, microphones, pickups, repaired—W9GIN, 2812 Indiana, Kansas City, Missouri.

QSL's—By W8NOS—"The QSL Craftsman"—13 Swan St., Buffalo, N. Y.

814 EXCITER or transmitter, figures 22-25 chapter 11 1940 RADIO Handbook. \$35 less tubes. \$50 with tubes. F.o.b. Radio Ltd., 1300 Kenwood Rd., Santa Barbara, Calif.

SEASONAL Greetings! Start the New Year right with PRECISION transformers. Complete line for amateurs. Chokes, filament, plate and modulation transformers. Write for literature. Buy direct for less! PRECISION TRANSFORMER CO., Muskegon, Michigan.

RECONDITIONED guaranteed receivers and transmitters. Practically all models cheap. All shipped on ten-day trial. Terms. List free. W9ARA, Butler, Missouri.

RADIO KITS—\$3.95 up. Complete. Single band; all-wave; 5-10 tubes. Save 50%. Radio and parts catalog—FREE. McGee Radio, P-2015, K. C., Mo.

CRYSTAL OVENS adaptable any round holder 2x1. inches or less. Specify 6.3 or 2.5 voltage. \$1.50 postpaid. Sodaro Manufacturing, 1115 North Lockwood, Chicago, Ill.

EQUIPMENT CONSTRUCTED—Any apparatus described in current magazines, constructed as described. Coxie's Electric Service, Rushville, Indiana.

QSL's?? SWL's?? Printed to your specifications!! Samples free. W8DED, Holland, Michigan.

NATIONAL NTX-30 transmitter with two 4-in-1 xtal holders, fixture for e.c.o. connection, \$95; Harvey UHX-10 transmitter and UHX-10P. coils for all bands. \$90; NC-100A receiver, (conversion) \$85; National NSA speech amplifier, \$55; Meissner Signal Shifter with 80 meter coils, \$30; fob Seattle. W7GXP.

WANTED Metal relay rack—DC SW3—W3FIS Phillipsburg, N. J.

FOR SALE: 250 Watt xmitter, Sky Champion, Weston Test Kit, etc. Write for list, prices. W6LJE, 1814 Del Mar, Fresno, Cal.

421 EXCITER or transmitter described in chapter 11 of 1940 RADIO Handbook, \$29.50 including 10, 20, 40, 80, and 160 meter coils, less tubes, crystal, and power supply. Price f.o.b. Radio Ltd., 1300 Kenwood Rd., Santa Barbara, Calif.

SACRIFICE Complete KW, CW xmitter. First feller with \$110.00 takes it. W7CGL, 501½ North 31st, Billings, Mont.

SELL Model CRA Clough-Brenkle 3 inch oscilloscope with all tubes \$45. Excellent condition. W6IH.

USED receivers, Xmters, tubes and parts of all kinds, bought, sold and swapped. Northwest Used Radio Supply Co., 8547-18th Northwest, Seattle, Washington. W7DVY.

SELL—9' x 7' Ham Shack. Rain proof, knock down, easily moved. W6JNE, 1224 Muriel St., Compton, Calif.

FOR SALE—Several new phone transmitters of various designs with carrier outputs between 75 and 200 watts. Only one of each type available at cost prices. Frank C. Jones, W6AJF 2037 Durant Ave., Berkeley, Calif.

THREE TUBE SUPERHET figure 6 chapter 6 RADIO Handbook (1940 edition) with dynamic speaker. Less tubes and power supply. \$15 f.o.b. Radio Ltd., 1300 Kenwood Rd., Santa Barbara, Calif.

ana,
Buf-
940
o.b.
SCI-
fila-
ure.
gon,
ally
List
5-10
Gee
or
daro
cur-
electric
free.
ders,
itter
vier,
ssner
XP.
J.
Kit,
Cal.
1940
160
o.b.
0.00
all
ught,
547-
easily
signs
e of
SAJF
book
power
Santa